

*1920*  
BOGNOR URBAN DISTRICT.

---

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

AND

CLIMATOLOGICAL REPORT

FOR THE YEAR 1911.



TO THE CHAIRMAN AND MEMBERS OF THE BOGNOR URBAN DISTRICT COUNCIL.

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Gentlemen,

I beg to lay before you my 22nd Annual Report on the health and sanitary condition of the Urban District of Bognor for the year ended 31st December, 1911.

The area of the District is 865 acres and contains about 1885 inhabited houses.

During the last five years the increase in the number of inhabited houses has been as follows :

In 1907 there were 1625 Inhabited Houses.

" 1908	" "	1773	" "
" 1909	" "	1797	" "
" 1910	" "	1840	" "
" 1911	" "	1885	" "

Forty-six plans of new houses and 1 plan for a new slaughter house together with 31 plans of additions to old buildings were approved by the Council. Sixty-six houses were completed during the year.

Plans for two new Roads, viz:—Sturges Road and Burnham Avenue were also approved by the Council.

The population estimated to the 30th June, 1911, is 8191.

The gross number of deaths during the year was 96, viz:—48 males and 48 females. These deaths were distributed over the 12 months as follows :—

	Males	Females	Total
January	7	2	9
February	7	7	14
March	2	9	11
April	2	4	6
May	2	6	8
June	2	1	3
July	3	7	10
August	4	3	7
September	6	2	8
October	4	1	5
November	4	1	5
December	5	5	10
	48	48	96

Included in this number are 10 deaths which occurred in Public Institutions in the District.

I have received from the Registrar General the names of 19 Bognor residents who died in the Chichester Infirmary, Asylum, or Workhouse and elsewhere, during the year. These deaths, in accordance with the instructions of the Local Government Board, are not included in the figures used in arriving at the death rate of the District, but they are included in Table III. which deals with deaths at the various ages of residents whether occurring in or beyond the District.

The estimated death rate for the year is 11·7 per 1000.

The total number of deaths, and the death rates since the increase of the area of the district, which took place on 1st October, 1900, are as follows :—

	TOTAL.	RATE.
1901	66	10·5
1902	80	12·4
1903	76	11·4
1904	82	11·9
1905	71	10·0
1906	66	9·0
1907	75	10·0
1908	69	8·9
1909	103	13·0
1910	78	9·6
1911	96	11·7

The various ages at which death occurred during the year under report were as follows :—

Under 1 year	15
1 year and under 2 years	3
2 years    „    5    „	4
5    „    „    15    „	5
15    „    „    25    „	2
25    „    „    45    „	11
45    „    „    65    „	18
65    „    „    80    „	26
80    „    and upwards	12
	<hr/> 96 <hr/>

The ages of death of those of 80 years and upwards were as follows :—

1	at	80
1	„	81
2	„	82
1	„	83
1	„	84
1	„	85
2	„	88
1	„	89
1	„	91
1	„	94

The chief causes of death were as follows :—

Diphtheria	...	...	3	Pneumonia	..	...	5
Pulmonary Tuberculosis	...	...	7	Premature birth	...	...	2
Cancer and other malignant diseases	12			Heart diseases	...	...	6
Bronchitis	...	...	4	Violent deaths	...	...	2
Measles	...	...	3	Convulsions	...	...	3
Diarrhoea	...	...	6	All other causes	...	...	43

One of the violent deaths was due to drowning at sea: the other occurred to a person of advanced age who was accidentally knocked down by a bicycle.

Three others deaths from violence occurred outside the District to Bognor residents. One was due to shock following severe injuries from falling from the fourth storey of a house whilst window cleaning; the second was due to shock following severe and extensive scalds; and the third was due to fracture of the spine, the result of falling from a scaffold.

During the year there were, as stated, 15 deaths of infants under 1 year of age occurring in the District, which gives an infantile mortality rate of 1·8 per 1000 general population and 98·6 per 1000 births registered in the District.

These were distributed over the 12 months as follows:—

	Males.	Females.	Total.
January	1	0	1
February	2	0	2
March	0	1	1
April	0	3	3
May	0	0	0
June	0	0	0
July	2	0	2
August	1	0	1
September	4	0	4
October	0	0	0
November	1	0	1
December	0	0	0
	<hr/> 11	<hr/> 4	<hr/> 15

The unusually hot and dry summer was followed, as might have been expected, by a great increase in the number of cases of Epidemic Diarrhoea amongst Infants.

Great efforts were taken by the Sanitary Inspector and myself to ensure the frequent and efficient removal of refuse, especially in the poorer parts of the town; and instructions with regard to diet and the general management of the cases were given to parents whenever possible; special stress being laid on the necessity of preventing the contamination of the milk by flies and dust.

Only 5 deaths were notified from this cause. The fatal cases during the previous five years were as follows:—

Year.	Fatal cases.
1906	7
1907	0
1908	4
1909	1
1910	1

Under the Infectious Diseases Notification Act, 1889, adopted by your Council in 1891, I have received 42 Certificates, viz:—Scarlet Fever 8, Diphtheria 28, Erysipelas 2, Enteric Fever 4.

The totals notified, under the Infectious Diseases Act 1889, during the last 10 years were as follows :—

1902	39	1907	38
1903	26	1908	33
1904	35	1909	17
1905	34	1910	35
1906	35	1911	42

These cases were spread over the 12 months as follows :—

	Scarlet fever.	Diphtheria.	Erysipelas.	Enteric fever.
January	1	1	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	1
June	0	0	0	1
July	1	4	0	0
August	0	5	1	0
September	2	5	0	2
October	1	7	0	0
November	0	5	0	0
December	3	1	1	0
	<hr/> 8	<hr/> 28	<hr/> 2	<hr/> 4

Eight of these cases, namely 5 of Scarlet Fever and 3 of Diphtheria, occurred in a Public Institution in the Town.

During the second half of the year there was an unusual number of cases of diphtheria. The most careful investigation failed to discover any cause for the outbreak. They could not be traced to any milk supply, and only in a very small proportion of the cases was there any definite history of actual contact. The cases were scattered over all parts of the district. I should consider the cause in all probability due to undetected "carrier" cases attending the schools.

The rigid enforcement of attendance at the Schools tends to prevent a child having a slight sore throat, or nasal discharge, being kept away, and in these indefinite cases it is impossible without a bacteriological examination, to be certain that they are not suffering from true diphtheria in a highly contagious form.

The increase in the number of cases is shown by the following table which gives the number of cases notified during the last five years :—

Year.	Number of cases.
1907	6
1908	7
1909	9
1910	7
1911	28

Three cases terminated fatally, which gives a death rate from notifiable diseases of 0.3 per 1000 estimated population.

The Diphtheria Antitoxin Serum Station which was established at Messrs. Long and Strickland's, Chemists, High Street, in 1910, and where any registered Medical Practitioner can obtain the serum free of charge, day or night, has undoubtedly proved a great advantage to the town.

Fourteen cases, namely 2 of Scarlet Fever and 12 of Diphtheria, were removed to the Isolation Hospital; of these 2 of the cases of Diphtheria ended fatally. All the other cases left the Hospital cured.

Disinfection of premises occupied by patients suffering from notifiable diseases was carried out by the Sanitary Authority in all cases.

The number of births registered in the District was 152, viz :—81 males and 71 females.

This gives a birth rate of 18·5 per 1000 estimated population.

The births were distributed over the 12 months as follows, viz :—

	Males.	Females.	Total.
January	8	6	14
February	6	9	15
March	4	6	10
April	9	8	17
May	3	6	9
June	6	5	11
July	8	6	14
August	7	3	10
September	8	9	17
October	10	7	17
November	9	4	13
December	3	2	5
	<hr/> 81	<hr/> 71	<hr/> 152

The figures for the previous five years were as follows :—

	Males.	Females.	Total.	Rate.
1906	52	79	131	18·0
1907	61	72	133	17·7
1908	60	61	121	15·7
1909	73	59	132	16·7
1910	58	72	130	16·0

The aspect of Bognor is almost due South ; it is sheltered from the East and north-east winds by the south downs. The air is remarkably pure, balmy and bracing, having the mildness of the Southern and the dryness of the Eastern coast. The surface soil is gravelly and very porous, the roads dry rapidly after rain. Fogs are rare, and in summer few days occur without sea breezes tempering the heat. The prevailing wind is South-west. Snow is rarely seen and when it falls it disappears rapidly. The sands decline gradually from the parade, constituting a safe playground for children. At high tide the sea reaches up to the parade, the foreshore getting well washed twice daily.

The sea fishing forms the principal industry of the town.

Two cases of overcrowding were effectually dealt with.

During the year the Urban Council have put into operation the provisions of the Housing and Town Planning Act, 1909; and the Housing (Inspection of Districts) Regulations, 1910. Thirty-five inspections have been made under the Act and Regulations and notices were served under Section 15 in respect of 25 houses. In nine of these houses the alterations necessary to make the houses habitable are being carried out.

The Council have now an application before the Local Government Board for sanction to loans of £2400 for the erection of 13 working class dwellings to be let at a weekly rental of 5/3 and £7200 for 48 working class cottages to be let at 4/6 per week, and these will provide accommodation for housing the population which will in all probability be displaced when the proceedings, in respect of certain of the houses in connection with which the above mentioned 25 notices have been served, have been carried to their ultimate issue.

The great difficulty to be contended with in the matter is the lack of dwelling houses which can be obtained at a rent within the means of the working class, and the Council are somewhat reluctant to go so far as to take proceedings for turning out the tenants until accommodation else-where has been provided for the displaced tenants.

The water supply of the town is ample in quantity and still maintains its high standard of purity as shewn by the accompanying report. It is drawn from deep wells at the foot of the downs about 7 miles distant where there is a pumping station which fills a covered service reservoir on the side of the hill from which the water falls by gravitation to the Town.

THE LABORATORY,  
11 BILLITER SQUARE,  
LONDON, E.C.

#### REPORT ON A SAMPLE OF THE BOGNOR WATER COMPANY'S WATER.

The sample was quite clear and had the faint blue tint of organically pure water.

##### CHEMICAL RESULTS, IN PARTS PER 100,000 :--

Chlorine	2.30
Sulphuric Acid (SO <sub>3</sub> )	1.08
Nitric Acid (N <sub>2</sub> O <sub>5</sub> )	1.90
Phosphoric Acid	None
Free Ammonia	0.0010
Albuminoid Ammonia	0.0031
Oxygen absorbed from permanganate at 80°F. in 15 mins.	0.010
ditto in 4 hours.	0.017
Total solids dried at 212°F.	32.88
Loss on ignition	2.12
Appearance of solids on heating	No visible change.
Hardness Permanent	4.9
do Temporary	18.2
do Total	23.1



## BACTERIOSCOPIC EXAMINATION.

B. Coli—not detectable in 35 cubic centimetres.

This water is of perfect purity and unexceptionable quality.

OTTO HEHNER.

The milk supply is chiefly imported from the neighbouring farms.

Complaints are sometimes received of dirty milk, and on some occasions there has been a distinct deposit of a gritty nature. I have no doubt that this is due to the dirty condition of the cows or milker, or of both. Such complaints would be much less frequent if the farmers and their men exercised a little extra care in washing their hands and cleansing the udders of the cows before milking. This is just as important as the careful cleansing of the milk vessels as required by the Regulations at present in force.

As I have before pointed out, a regular examination of all dairy cows at stated intervals by a qualified Veterinary surgeon would be advantageous, as this would ensure the exclusion from the herd of any animal not in perfect health.

There are thirteen milkshops, nine dairies, and five cowsheds in the District. These have all been inspected during the year by the Inspector of Nuisances and myself and they have been found generally in a cleanly and satisfactory condition.

Under the Sale of Food and Drugs Act 12 samples were taken during the year for the purpose of analysis by the Public Analyst.

Sample.	Number analysed.	Genuine.	Adulterated.
New Milk	7	6	1
Cream	2	2	0
Lard	1	1	0
Butter	1	1	0
Jam	1	1	0

Proceedings were taken in the one case of Adulterated milk. The case was dismissed, a warrant being held to have been proved.

There are 4 slaughter houses in use in the district. These have been periodically inspected during the year. They have been inspected also at times of slaughtering.

No carcases, or parts of carcases, have been condemned for tuberculosis. The carcase of one pig was condemned as being unfit for food.

No fish, fruit, or other foods have been condemned during the year. The Sanitary Inspector has from time to time made inspections, especially of food from hawker's barrows.

The sanitary condition of the premises where foods are prepared, stored, or exposed for sale is satisfactory.

There are no underground bakehouses in the district.

The sewers and drains in all parts of the district are sufficient and are well ventilated.

The sewage is disposed of by the water carriage system with outfall into the sea.

The new scheme for dealing with the outfall is still under consideration.

New Sewers have been laid in Sturges Road, Burnham Avenue, and in two short pieces of road leading out of Longford Road where new buildings were being erected.

During the season the house refuse is collected (in covered carts provided by the Council) twice a week ; during the rest of the year it is collected once a week. Houses have been provided with new sanitary dustbins with covers where necessary.

During the year the council has erected a refuse destructor. The old refuse tip at North Bersted was cleared and the destructor brought into use in October.

The total number of loads destroyed up to the end of December was 396. The destructor is capable of dealing with double this amount.

Seventy-two nuisances were reported to the Sanitary Authority during the year. In 24 of these cases notices were served for the abatement which have all been complied with, with the exception of one which is now being dealt with. The remaining 48 were abated without notice being served.

No injurious or offensive trades are carried on in the District.

The Public Elementary Schools are supplied with town water, and are in a sanitary condition. During the vacations they are thoroughly cleansed and disinfected.

During the year it was found necessary temporarily to close three of the schools owing to an epidemic of measles.

A special School Medical officer is appointed by the County Council for the inspection of the children in the Public Elementary Schools.

Under the Public Health (Tuberculosis) Regulations, 1908, which requires notification of all pauper cases of Pulmonary Tuberculosis, I have received 1 certificate.

One death occurred among this class of patient and the rooms were thoroughly disinfected by the Sanitary Authority.

There is no hospital accommodation for these cases.

The factories on the register at the end of the year and under the Supervision of the Council are 7 in number and are classified as follows ;—

Steam Laundry	1	Forage Contractors	2
Mineral Water Works	1	Printers	2
Stone Mason	1		

The Workshops on the register at the end of the year were 72 in number and are classified as follows :—

Bakehouses	9	Dressmakers	11
Tailors	6	Laundries	4
Carpenters	11	Shoemakers	7
Plumbers	4	Coach Builders	2
Horse Farriers, &c.	6	Watch Makers	4
Undertakers and Cabinet Makers	2	Cycle Manufacturers	3
Harness Makers	2	Brick Makers	1

All the above Factories and Workshops have been inspected during the year.

The sanitary condition of 4 of the bakehouses was found to be unsatisfactory. Two have been remedied and the remaining two are now being dealt with.

Systematic inspections of the district have been made from time to time, or as occasion required, by myself or the sanitary Inspector. Regular monthly reports of the work have been laid before the Sanitary Committee. Besides this general supervision, I have paid 83 special visits in cases where required.

The scavenging and watering of the streets under the control of the Council have been thoroughly and systematically carried out.

The following Roads were made up under the Private Street Works Act, 1892, viz ;— Annandale Avenue, Nelson Road, Tennyson Road, Elm Grove, Glencathara Road, and the middle portion of Victoria Drive. Burnham Avenue and the remaining portion of Sturges Road, together with two portions of Longford Road were made up by the owners. Steyne Street has been greatly improved by being retmetalled and channelled.

Still further improvements have been made in the Marine Drive which have been of great advantage to the town.

The road in front of Lansdowne is too narrow to accommodate the increasing traffic and improvements in this portion are urgently needed.

The roads in the district which have been metalled with granite have shewn a great improvement in wearing quality over the roads which are metalled with flint, the surface having remained good and free from an excess of mud during the wet weather.

The surfaces of the roads which were tar-paved have been kept in good order and further portions of the principal roads have been treated in a like manner.

The footpaths of the streets are in good condition.

A lavatory for Females has been provided by the Pier Company, which will serve to accommodate the increasing number of excursionists.

The work of the District Nurse and of the District Maternity Nurse has increased, and it is now difficult to understand how it was possible in former years to do without them. Their work has been indeed most useful and untiring, and they have been the means of alleviating a great deal of suffering. It is hardly necessary for me to add that everybody in the District should give all the aid that is possible to support this very valuable Institution.

I would draw your attention to the fact that the work of the Public Health Department steadily increases as year by year Parliament throws greater and more extended responsibilities upon Local Authorities.

I enclose Tables I, II, III, and IV, specially required by the Local Government Board, and I take this opportunity of thanking the Members of the Sanitary Committee and Inspector of Nuisances for the courtesy and help they have extended to me during the year.

I beg to remain,

Your obedient Servant,

W. CONWAY-COOKE,

Associate of King's College, London,  
Fell. Royal Institute of Public Health,  
Medical Officer of Health.

Bognor,

*1st March, 1912.*

**TABLE I.**  
**Vital Statistics of Whole District during 1911 and previous Years.**  
*Name of District: BOGNOR URBAN DISTRICT.*

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un-corrected Number.	Nett.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 Year of Age.		At all ages.	
			Number.	Rate					Number.	Rate per 1,000 Nett Births	Number	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1906.	7269	131			66	9.0						
1907.	7477	133			75	10.0						
1908.	7685	121			69	8.9						
1909.	7892	132			103	13.0						
1910.	8100	130			78	9.6						
1911.	8191	152	153	18.6	96	11.7	10	19	15	98.0	105	12.8

Total population at all ages 8142

Area of District in acres  
(exclusive of area  
covered by water) } 865 Acres.

Number of inhabited houses 1885

Average number of persons per house 4.3

At Census of  
1911.

**TABLE II.**  
**Cases of Infectious Disease notified during the year 1911.**  
*Name of District: BOGNOR URBAN DISTRICT.*

NOTIFIABLE DISEASE.		AT ALL AGES.		TOTAL CASES REMOVED TO HOSPITAL.	
Small-pox	...	...	...	...	...
Cholera	...	...	...	...	...
Diphtheria (including Membranous croup)	...	28	...	...	12
Erysipelas	...	2	...	...	...
Scarlet fever	...	8	...	...	2
Typhus fever	...	...	...	...	...
Enteric fever	...	4	...	...	...
Relapsing fever	...	...	...	...	...
Continued fever	...	...	...	...	...
Puerperal fever	...	...	...	...	...
Plague	...	...	...	...	...
Phthisis	Under Tuberculosis Regulations, 1908	1	...	...	...
	Under Tuberculosis Regulations, 1911	...	...	...	...
	Others	...	...	...	...
Totals		43	...	...	14

Bognor Isolation Hospital, Sheepwash Lane, Bognor.

Total available beds: 24.

Number of Diseases that can be concurrently treated: 2.

TABLE III.  
Causes of, and Ages at, Death during the Year 1911.

*Name of District: BOGNOR URBAN DISTRICT.*

CAUSES OF DEATH.			Nett Deaths at the subjoined ages of "Residents" whether occurring within or without the District.								Total deaths whether of Residents' or non-Residents' in Institutions in the District	
			All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.		
1			2	3	4	5	6	7	8	9	10	11
All Causes	Certified	...	105	15	3	3	4	2	11	20	47	10
	Uncertified	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...			...	...	...	...	...	...	...	...	...	...
Small-pox ...			...	...	...	...	...	...	...	...	...	...
Measles ...			2	...	...	1	1	...	...	...	...	1
Scarlet fever ...			...	...	...	...	...	...	...	...	...	...
Whooping-cough			...	...	...	...	...	...	...	...	...	...
Diphtheria and Croup			2	...	...	1	...	...	1	...	...	3
Influenza ...			...	...	...	...	...	...	...	...	...	...
Erysipelas ...			...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Fever			...	...	...	...	...	...	...	...	...	...
Phthisis, (Pulmonary Tuberculosis)			6	...	...	...	...	1	4	1	...	1
Tuberculous Meningitis			3	1	1	...	1	...	...	...	...	...
Other tuberculous diseases			...	...	...	...	...	...	...	...	...	...
Rheumatic Fever			...	...	...	...	...	...	...	...	...	...
Cancer, malignant disease			13	...	...	...	...	1	...	2	10	...
Bronchitis ...			4	...	1	...	...	...	...	...	3	...
Broncho-Pneumonia			3	3	...	...	...	...	...	...	...	...
Pneumonia (all other forms)			1	...	...	...	...	...	...	...	1	...
Other diseases of Respiratory organs			7	...	...	1	...	...	1	3	2	...
Diarrhœa and Enteritis			6	5	1	...	...	...	...	...	...	1
Appendicitis and Typhlitis			...	...	...	...	...	...	...	...	...	...
Alcoholism.			...	...	...	...	...	...	...	...	...	...
Cirrhosis of Liver			...	...	...	...	...	...	...	...	...	...
Nephritis and Bright's Disease			8	...	...	...	...	...	...	4	4	1
Puerperal Fever			...	...	...	...	...	...	...	...	...	...
Other accidents and Diseases of Pregnancy and Parturition			1	...	...	...	...	...	1	...	...	...
Congenital Debility & Malformation, including Premature Birth			3	3	...	...	...	...	...	...	...	...
Violent Deaths, excluding Suicide			3	...	...	...	...	...	2	1	...	...
Suicides			...	...	...	...	...	...	...	...	...	...
Other Defined Diseases			43	3	...	...	2	...	2	9	27	3
Diseases ill-defined or unknown			...	...	...	...	...	...	...	...	...	...
			105	15	3	3	4	2	11	20	47	10



1911. Nett Deaths from stated causes at various Ages under 1 Year of Age.

Nett Births in the year	{	legitimate M 77. F 65.	{	142.	Nett Deaths in the year of	{	legitimate infants M 10. F 4.	{	14.
		illegitimate M 5. F 6.		11.			illegitimate infants M 0. F 1.		1.

*BOGNOR URBAN DISTRICT.*

**PHTHISIS: SANATORIUM AND HOSPITAL ACCOMMODATION.**

Classes for which accommodation is provided.	By whom provided.	Where situated.	Total number of Beds.	How are patients selected?	Are patients under the care of a resident Medical Officer?	What charge, if any, is made for the use of Beds?	Do the Sanitary Authority use— 1. their Isolation Hospital, or 2. their Small-Pox Hospital, for cases of Phtisis?	Do the Sanitary Authority reserve Beds in any Phtisis Sanatorium? If so, how many, and in what Sanatorium?	Do the Sanitary Authority Provide portable Shelters or Tents?
(a) Early cases.	<i>Nil</i>								
(b) Intermediate cases	<i>Nil</i>						1. <i>No.</i>	<i>No.</i>	<i>No.</i>
(c) Advanced cases	<i>Nil</i>						2. <i>No.</i>		

Have the Council, or any Private Body, provided a Dispensary. If so, give particulars. **No.**



Annual Report of the Medical Officer of Health for the year 1911 for the URBAN DISTRICT of BOGNOR, on the administration of the Factory and Workshop Act, 1901, in connection with

FACTORIES, WORKSHOPS, WORKPLACES AND HOMEWORK.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.  
INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

Premises. 1	Number of		
	Inspections. 2	Written Notices. 3	Prosecutions. 4
<b>Factories</b> .. .. . (Including Factory Laundries).	7	..	..
<b>Workshops</b> .. .. . (Including Workshop Laundries).	83	3	..
<b>Workplaces</b> .. .. . (Other than Outworkers' premises included in Part 3 of this Report).	..	..	..
<b>Total</b> .. .. .	90	3	..

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars. 1	Number of Defects.			Number of Prosecutions 5
	Found. 2	Remedied. 3	Referred to H.M. Inspector. 4	
<i>Nuisances under the Public Health Acts :—</i>				
Want of cleanliness .. .. .	..	..	..	..
Want of ventilation .. .. .	..	..	..	..
Overcrowding .. .. .	..	..	..	..
Want of drainage of floors .. .. .	..	..	..	..
Other nuisances .. .. .	..	..	..	..
Sanitary accommodation { insufficient .. .. .	..	..	..	..
unsuitable or defective .. .. .	..	..	..	..
not separate for sexes .. .. .	..	..	..	..
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bakehouse (s 101) .. ..	..	..	..	..
Breach of special sanitary requirements for bakehouses (ss. 97 to 100). .. .. .	4	2	..	..
(The two unremedied defects are being dealt with). .. ..	..	..	..	..
Other offences .. .. .	..	..	..	..
(Excluding offences relating to outwork which are included in Part 3 of this Report). .. .. .	..	..	..	..
<b>Total</b> .. .. .	4	2		

3.—REGISTERED WORKSHOPS.

Workshops on the Register [s. 131] at the end of the year.		Number.
Important classes of Workshops such as workshop bakehouses, may be enumerated here.	Bakers .. .. . 9	Harness Makers .. .. . 2
	Tailors .. .. . 6	Dressmakers .. .. . 11
	Carpenters .. .. . 11	Laundries .. .. . 4
	Plumbers .. .. . 4	Shoemakers .. .. . 7
	Horse Farriers .. .. . 6	Coach Builders .. .. . 2
	Undertakers & Cabinet Makers .. .. . 2	Watch Makers .. .. . 4
		Cycle Makers .. .. . 3
		Brickmakers .. .. . 1

Total number of workshops on Register

## BOGNOR CLIMATOLOGY.

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### Notes on the observations and records made during the year 1911.

*Owing to circumstances unavoidable by the undersigned these notes must be brief, and the four Tables which follow be trusted to speak for themselves.*

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AIR PRESSURE—TABLE I. It will be seen that the mean monthly readings of the Barometer corrected to 32° and mean-sea level were above the averages for the 13 years 1898 to 1910 for the first nine months of this notable year, and below the averages in the last three months, this well agrees with the rainfall, see Table III.

The highest reading of the Barometer occurred on the 17th of the first month, and the lowest on the last day of the last month of the year.

TEMPERATURE—TABLE II. Comparing the average monthly temperatures of 1911 with the average of the corresponding items of the previous 13 years it is found that the maximum of January, April, October and November was slightly below the average, and that of February, March, May, June, July, August, September and December above. The greatest difference from the 13 years' average was in May which was in excess 10·5 degrees. The average monthly minimum temperature was above that of the previous 13 years on 9 months; below the 13 years average in January 1·7 degree and April 0·6 of a degree only; and equal to the average in November; the natural result of these conditions is that the average for the year 1911 is also above that of the previous 13 years though by only 1·2 degree.

Although 1911 was a remarkable year in some respects a consideration of these small differences from the average temperature merely serves to confirm the reputation this locality has gained for equableness. This is again borne out on examining the highest temperatures recorded during the year, the extreme was 85·9 on the 14th of August whereas in London on the same day it was about 7 degrees higher. The highest temperature that has been previously recorded in Bognor is 81 degrees on the 9th of August, 1909. On the same date in 1911 the maximum was 77° while at Greenwich 100° was registered which is 3° above any record since the systematic observations were started in 1841. The circumstance of the photosphere of the sun being less disturbed during the summer of 1911 than it had been for some years previously may account to a great extent for the more than ordinary heat experienced on the earth.

The subsoil temperature 4-ft. below the surface reached its critical point, 56 degrees, on the 9th July, and continued to increase to its maximum of 61·3 on the 20th of August from which it gradually declined and fell below 56 on the 30th of October. It was lowest, 43·9 from the 17th to 19th February.

It will be noticed that the numbers of frosts are computed from temperatures of 30 degrees and under: this is in accordance with the practice of the Meteorological Office, 30 degrees being adopted as the base instead of 32 as heretofore. The number of days on which temperatures above 30 but not above 32 were recorded are: in the screen, January 1, February 1, March 2, April 3, November 2 and December 2: while on the grass the numbers were, January 2, February 3, March 4, April 3, May 3, June 1, September 1, October 4, November 2 and December 2. The temperature on the grass was slightly higher than in the screen on March 9th and 24th, and June 30th.

**RAINFALL.** Although the total quantity for the twelve months was in excess of the average of the 13 years, see table III, it was very unequally distributed, the last 3 months producing more than the previous 9; the total quantity gauged during October, November & December was 17·02 inches and from January to September inclusive 11·31 inches. The longest periods of dry weather were, in January 12th to 20th and 25th to 31st, February 1st to 9th, that is to say no rain fell during the 16 days; in March the dry periods were shorter, there being two of 4 days only. April had a dry spell lasting from the 11th to the 24th, 14 days. The dry periods in May were from the 4th to 10th, 15th to 24th and 26 to 31st and this draught continued till June the 15th, a period of 21 days. The long dry spell in July lasted for 23 days, from 1st to 23rd. August was without rain except for a few drops on the evening of the 5th, not measurable, from the 4th to 19th, 16 days, and again from 23rd to 27th. September was dry from 1st to 11th and again from 14th to 18th. October which is usually the rainiest month of the year had one spell of 3 dry days at the beginning and two subsequent dry periods of 4 days each 8th to 11th and 14th to 17th. The longest dry period during November was one of 3 days, 20th to 22nd. December was not entirely without rain on any day during the whole month. In addition to the above mentioned dry periods there were shorter intervals of one or two days each distributed throughout the several months.

On the 23rd of February about 9 p.m. rain was observed falling from a cloudless, starlit sky; the weather during the day had been comparatively warm, Max: temperature 50·4, min. 44·3 mean 47·4, Bar: at 9 a.m. 29·65, Relative humidity 90 per cent. of saturation. This phenomenon was probably the result of the warm and nearly saturated air at the surface of the earth rising and meeting with a colder stratum of air not very far above the surface which caused condensation in the moist and warmer air, the moisture falling as a fine rain without the intermediary formation of visible cloud.

**BRIGHT SUNSHINE.**—Table IV. The nearest approach to the total number of hours recorded at Bognor during 1911 is that of 1899 when the total was 2187·6, next come 1901 with 2012·5, and 1906 with 2023·4 hours.

**THUNDER STORMS.** The only storms recorded during the year are on July 25th about 5.30 a.m., September 12th a distant storm at 7 p.m., October 21st, a distant storm at night, November 9th in the early morning, short and sharp; there was also a little lightning accompanying some rain and a strong wind during the evening of November the 4th.

H. C. L. MORRIS, M.D., F.R. MET. SOC.

A. G. THOMPSON, C.E., F.R. MET. SOC.

TABLE I.

Air Pressure at 9 a.m.															
1911.	Barometer reduced to 32° and Mean-Sea level	Difference from Average of 13 years 1898-1910.	Highest Reading.	Date.	Lowest Reading.	Date.	WIND.								CALM.
							Number observed to be blowing from.								
							N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
	Averages. Ins.		Ins.		Ins.										
January.	30.324	+ 0.228	30.726	17th	29.864	6th	4	11	1	2	—	4	4	5	—
February.	30.180	+ 0.250	30.685	2nd	29.547	15th	2	7	1	1	2	5	1	9	—
March.	29.931	+ .048	30.392	3rd	29.547	15th	5	7	7	1	—	3	1	6	1
April.	30.039	+ .152	30.445	22nd	29.458	29th	2	9	2	—	1	11	3	2	—
May.	29.999	+ .049	30.252	7th	29.616	14th	1	12	4	2	2	5	2	3	—
June.	30.027	+ .023	30.435	7th	29.643	18th	—	7	2	1	2	10	4	4	—
July.	30.147	+ .125	30.477	10th	29.738	1st	2	4	4	1	5	4	4	5	2
August.	30.014	+ .021	30.254	31st	29.583	21st	—	9	1	1	1	14	3	1	1
September.	30.069	+ .014	30.375	18th	29.484	21st	1	8	3	4	1	6	2	5	—
October.	29.878	— .041	30.404	10th	29.081	22nd	2	10	8	—	2	5	2	2	—
November.	29.744	— .214	30.347	30th	29.299	17th	3	2	3	—	3	7	7	5	—
December.	29.731	— .184	30.356	31st	28.985	21st	—	1	1	—	8	9	9	3	—
Average for the year.	30.007	+ .037				Totals.	22	87	37	13	27	83	42	50	4

TABLE II.

Average Temperature in Shade, on Grass, and Subsoil.											Sub Soil.	Frosts.			
1911.	Mean Maximum.	Mean Minimum.	Average Mean. (corrected).	Mean Range.	Greatest range from min. to max.	Date.	Highest. Temperature.	Date.	Lowest. Temperature.	Date.	Mean Minimum on grass.	Lowest on Grass. Date.	Average Temper- ature 4-ft. below Grass at 9 a.m.	No. of times 30° and under in screen registered.	Do. on Grass.
	°	°	°	°	°		°		°		°		°		
January.	43.6	35.2	39.6	8.4	18.3 on 15th	48.8 on 9 & 28	27.6	on 15th	30.3	19.2 on 16th	46.0		5	16	
February.	46.2	37.0	41.6	9.2	16.8 „ 14th	56.3 „ 25th	26.0	„ 1st	30.3	19.2 „ 14th	44.4		4	13	
March.	48.4	38.0	43.0	10.4	18.9 „ 5th	51.8 „ 3 & 22	30.2	„ 5th	33.1	21.8 „ 17th	45.2		0	10	
April.	49.6	40.3	44.7	9.3	17.0 „ 12th	58.4 „ 30th	26.8	„ 6th	34.4	25.1 „ 17th	45.9		1	11	
May.	62.8	48.7	55.3	14.1	22.8 „ 10th	76.7 „ 29th	37.8	„ 22nd	39.5	26.8 „ 22nd	49.9		0	3	
June.	65.3	52.4	58.4	12.9	24.8 „ 9th	77.8 „ 9th	42.8	„ 14th	46.2	30.5 „ 14th	54.2		0	0	
July.	73.6	56.5	64.5	17.1	32.4 „ 12th	83.8 „ 13th	46.1	„ 3rd	48.2	39.0 „ 4th	57.2		0	0	
August.	72.5	60.0	65.9	12.5	29.2 „ 10th	85.9 „ 14th	48.1	„ 31st	49.8	38.0 „ 31st	60.6		0	0	
September.	67.2	52.4	59.4	14.8	23.6 „ 2nd	79.1 „ 5th	42.7	„ 29th	41.9	29.1 „ 18th	60.2		0	1	
October.	57.3	46.9	51.9	10.9	23.5 „ 29th	60.9 „ 21st	33.5	„ 29th	37.7	23.2 „ 29th	57.1		0	7	
November.	50.4	41.0	45.7	9.4	22.4 „ 11th	58.1 „ 4th	29.1	„ 22nd	32.3	18.8 „ 11th	53.2		1	14	
December.	49.6	42.5	46.2	7.1	16.6 „ 6th	51.6 „ 17th	31.4	„ 8th	36.3	20.8 „ 8th	49.7		0	7	
Average for the year.	57.2	45.9	51.4	11.3					38.3		52.0		Total 11	Total 82	

TABLE III.

<b>Rainfall.</b>				
1911	Monthly Totals.	Difference from Average of 13 years 1898-1910.	Greatest Fall in 24 hours. Date	Number of rain days.
	Ins.	Ins.	Ins.	
January	1·05	— 1·14	0·31 on 22nd	10
February	1·32	— 0·77	0·38 „ 27th	13
March	1·53	— 0·13	0·81 „ 12th	13
April	1·40	— 0·27	0·49 „ 1st	11
May	1·14	— 0·61	0·55 „ 25th	6
June	1·77	— 0·13	0·84 „ 16th	8
July	1·02	— 0·34	0·85 „ 25th	4
August	0·86	— 1·14	0·27 „ 21st	7
September	1·22	— 0·36	0·28 „ 21st	9
October	4·37	+ 0·97	0·62 „ 5th	16
November	6·80	+ 4·01	1·30 „ 17th	21
December	5·85	+ 3·28	0·75 „ 20th	28
Totals.	28·33	+ 3·38		146

TABLE IV.

<b>Bright Sunshine.</b>						
1911.	Totals. Hours.	Difference from Average of 13 years 1898-1910. Hours.	Per centage of possible amount.	Number of Sun-recorded Days.	Brightest Days.	
					Date.	Hours.
January.	81·2	+ 8·4	31·4	14	31st	8·3
February.	86·9	— 10·0	31·5	19	26th	8·3
March.	120·2	— 25·5	32·8	25	22nd	9·5
April.	168·4	— 22·0	40·8	27	24th	11·7
May.	251·2	+ 22·3	52·4	31	29th	14·2
June.	264·7	+ 42·7	54·0	29	8th	15·6
July.	372·2	+ 98·0	75·3	31	13th	15·0
August.	277·3	+ 41·1	61·9	31	9th	13·7
September.	245·2	+ 56·8	65·0	30	1st	12·7
October.	124·4	+ 5·9	37·7	29	1st	10·3
November.	73·4	— 12·5	27·9	24	1st	8·1
December.	56·0	0	22·7	21	4th	6·2
Totals.	2121·1	+ 232·1	47·6	311		

